National Institute of Environmental Health Sciences

Air pollution and hospital admissions for congestive heart failure in a tropical city: Kaohsiung, Taiwan

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Abstract:

This study was undertaken to determine whether there was an association between air pollutant levels and hospital admissions for congestive heart failure (CHF) in Kaohsiung, Taiwan. Hospital admissions for CHF and ambient air pollution data for Kaohsiung were obtained for the period 1996-2004. The relative risk of hospital admission was estimated using a case-crossover approach, controlling for weather variables, day of the week, seasonality, and long-term time trends. In the single-pollutant models, on warm days (> 25°C) statistically significant positive associations were found in all pollutants except sulfur dioxide (SO2). On cool days (< 25°C), all pollutants were significantly associated with CHF admissions. For the two-pollutant model, CO and O3 were significant in combination with each of the other four pollutants on warm days. On cool days, NO2 remained statistically significant in all the two-pollutant models. This study provides evidence that higher levels of ambient air pollutants increase the risk of hospital admissions for CHF and that the effects of air pollutants on hospital admissions for CHF were temperature dependent. Copyright © Informa Healthcare.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Meteorological Factors, Temperature

Air Pollution: Particulate Matter, Other Air Pollution

Air Pollution (other): SO2;NO2;CO

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

Urban, Other Geographical Feature

Other Geographical Feature : sub-tropical

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Asia

Asian Region/Country: Other Asian Country

Other Asian Country: Taiwan

Health Impact: M

specification of health effect or disease related to climate change exposure

Cardiovascular Effect

Cardiovascular Effect: Other Cardiovascular Effect

Cardiovascular Disease (other): congestive heart failure

Resource Type: M

format or standard characteristic of resource

Research Article

Timescale: M

time period studied

Time Scale Unspecified